

DN 99-040A
USSN 10/731,512
Amendment Filed Dec. 22, 2004

PATENT

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application:

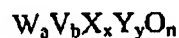
Claims 1-9 (Cancelled).

10. (Currently Amended) A process for preparing an unsaturated aldehyde or carboxylic acid comprising subjecting an alkane to catalytic oxidation in the presence of a catalyst prepared by a process comprising:

(A) admixing metal compounds, at least one of which is an oxygen-containing compound, and at least one solvent to form a solution,

(B) removing said at least one solvent from the solution to obtain a catalyst precursor, and

(C) calcining said catalyst precursor at a temperature of from 350⁰C to 850⁰C under an inert atmosphere to form a catalyst having the formula



wherein a, b, x and y are molar fractions of W, V, X and Y, respectively, based on the total amount of W, V, X and Y, and n is the molar proportion of oxygen as determined by the oxidation state of W, V, X and Y,

wherein a, b, x and y satisfy the following relationships

$$0.25 < a < 0.98$$

$$0.003 < b < 0.5$$

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$$0.003 < x < 0.5$$

$$0.003 < y < 0.2$$

wherein X is at least one element selected from the group consisting of Te, Bi, Sb

and Se,

wherein Y [[comprises]] is Mo.

11. (Previously Presented) A process for preparing an unsaturated aldehyde or carboxylic acid comprising subjecting an alkane to catalytic oxidation in the presence of a catalyst prepared by a process comprising:

(A) admixing metal compounds, at least one of which is an oxygen-containing compound, and at least one solvent to form a solution;

(B) removing said at least one solvent from the solution to obtain a catalyst precursor;
and

(C) calcining said catalyst precursor at a temperature of from 350°C to 850°C under an inert atmosphere to form a catalyst comprising:

Mo present in a molar fraction not greater than 0.20;

V present in a molar fraction from 0.003 to 0.5;

at least one of Te, or, Bi, or, Sb, or Se present in a molar fraction from 0.003 to 0.5; and

at least one of Nb, or Ta, or Ti, or Al, or Zr, or Cr, or Mn, or Fe, or Ru, or Co, or Rh, or Ni, or Pd, or Pt, or B, or In, or Ce present in a molar fraction from 0.003 to 0.5.

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12. (Previously Presented) A process for preparing an unsaturated aldehyde or carboxylic acid comprising subjecting an alkane to catalytic oxidation in the presence of a catalyst prepared by a process comprising:

- (A) admixing metal compounds, at least one of which is an oxygen-containing compound, and at least one solvent to form a solution,
- (B) removing said at least one solvent from the solution to obtain a catalyst precursor, and
- (C) calcining said catalyst precursor at a temperature of from 350°C to 850°C under an inert atmosphere to form a catalyst comprising:

W present in a molar fraction from 0.25 to 0.98;

Mo present in a molar fraction not greater than 0.20;

V present in a molar fraction from 0.003 to 0.5;

at least one of Te, or, Bi, or, Sb, or Se present in a molar fraction from 0.003 to 0.5; and

at least one of Nb, or Ta, or Ti, or Al, or Zr, or Cr, or Mn, or Fe, or Ru, or Co, or Rh, or Ni, or Pd, or Pt, or B, or In, or Cc present in a molar fraction from 0.003 to 0.5.